REMARKS/ARGUMENTS

Claims 2-22 and 29-37 as amended through the above claims amendments are currently pending in the present patent application. Claims 1 and 23-28 have been cancelled and claim 5 rewritten in independent form.

In the final Office Action mailed December 1, 2006, the Examiner maintained her rejections of claims 1-37 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,469,361 to Moyne ("Moyne").

Amended claim 5 recites, in part, a system including a hardware subsystem, an application database, a self-configuring application services system, and a signal database storing interface configuration information corresponding to a manner of managing communication between the hardware subsystem and the application services system. A self-configuring interface system is coupled to the hardware subsystem and the application services system and includes a configuration module coupled to retrieve interface configuration information from the signal database. It should be noted that the amendments to claim 5 merely rewrite this claim in independent form and accordingly do not narrow the scope of claim 5.

An embodiment of the present invention covered by claim 1 is depicted in Figure 3 of the present application. The configuration and initialization module 332 may operate during an initialization mode to retrieve from the signal database 400 (Figure 1) configuration information describing one or more signal exchange modules 214 within an electrical interface unit 210 (Figure 2) to which the framework services module 330 is coupled. The configuration and initialization module 332 may build, generate, or retrieve one or more portions of a hardware interface module 350 for communicating with a signal exchange module 214 using the retrieved configuration information. In particular, upon retrieving such information associated with a given signal exchange module 214, the configuration and initialization module 332 may initiate or invoke a set of executable files for generating one or more portions of a hardware interface module 350, passing as parameters to such executable files particular configuration information retrieved from the signal database 400. Such parameters may comprise a) one or more location identifiers that uniquely specify where the signal exchange module 214 physically and/or logically resides; b) a communication interface definition for the signal exchange module 214, which may include a port number, one or more interrupt

definitions, and/or storage element identifications and/or descriptions; c) data signal definitions for each data signal that the signal exchange module 214 may exchange; d) an event identifier, such as a number and/or character, associated with each such data signal; and/or e) other information, such as a manufacturer name and model number.

The Examiner has not shown that Moyne discloses or suggests a signal database storing interface configuration information corresponding to a manner of managing communication between the hardware subsystem and the application services system as recited in claim 1. Neither has the Examiner shown that Moyne discloses a self-configuring interface system coupled to the hardware subsystem and the application services system and including a configuration module coupled to retrieve interface configuration information from the signal database.

As described in Moyne under the "Generic Cell Controller-Overview" section starting in column 5, the generic cell controller 20 of Figure 2 receives messages via one of the interfaces 27 and 28 and I/O interpreters 25 strips these messages of control information specific to the defined I/O communications protocol. See col. 5, lines 55-58. A message parser 24 extracts data from the received messages and provides this data to a main program module 21 which matches the data to an entry in a database 22. True relations implied by the database 22, the main program module 21 determined action to be taken and calls selected one of routine modules 23, which function as generic-to-tool translators for generating operational instructions for the corresponding tool controller 13 (Figure 1). With regard to the messages, the Examiner points to column 5, lines 55-67 as corresponding to a signal database. These lines describe that the generic cell controller 20 is presented with messages which are preferably structured in a common facility-wide message format and independent of a specific communications protocol. The message parser 24 makes use of the defined properties of such messages to extract data from the messages.

In contrast to the system of Moyne, the configuration and initialization module 332 retrieves from the signal database 400 (Figure 1) configuration information describing one or more signal exchange modules 214 within an electrical interface unit 210 (Figure 2) to which the framework services module 330 is coupled. The configuration and initialization module 332 thereafter builds, generates, or retrieves portions of a hardware interface module 350 for communicating with a given signal

exchange module 214. The interface may include one or more location identifiers that uniquely specify where the signal exchange module 214 physically and/or logically resides and a communication interface definition for the signal exchange module 214, which may include a port number, interrupt definitions, and/or storage element identifications and/or descriptions.

With this embodiment of the present invention, sensing and/or control subsystems 120 (Figure 1) may be changed at will and the corresponding signal exchange module 214 (Figure 2) modified via the signal database 400 to properly communicate with the subsystems. In contrast, no such signal database 400 stores interface configuration information corresponding to a manner of managing communication between the hardware subsystem and the application services system. Instead, Moyne assumes communication via a predefined in standardized communications protocol. Thus, in Moyne if a tool 12 (Figure 1) is replaced along with the associated tool controller 13, that new tool controller must communicate according to the standardized communications protocol with associated parent or child cell controllers 20 in order to properly function in the system. Moyne enables varied processing of signals from such a new tool controller 13 via the database 22, but does not disclose a signal database for defining communications between such a new tool and existing components. Any such new tools must communicate via the standardized communications protocol, such as the SECS-II message format for semiconductor manufacturing facilities.

Amended claim 5 recites a signal database storing interface configuration information corresponding to a manner of managing communication between the hardware subsystem and the application services system and a self-configuring interface system coupled to the hardware subsystem and the application services system and includes a configuration module coupled to retrieve interface configuration information from the signal database. Moyne neither discloses nor suggests such a signal database and self-configuring interface system.

For these reasons, the combination of elements recited in amended claim 5 is allowable. Dependent claims 2-4 and 6-11 are allowable for at least the same reasons as claim 5 and due to the additional limitations added by each of these dependent claims.

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Independent claim 12 recites a system including a hardware subsystem, an application database referencing a first software object that corresponds to a manner of processing information associated with an electrical signal. A self-configuring application services system includes a configuration module coupled to the hardware subsystem and is coupled to retrieve application service configuration information from the application database, and includes the first software object. A signal database stores interface configuration information corresponding to a manner of managing communication between the hardware subsystem and the application services system and references a second software object that corresponds to a manner of processing information associated with an electrical signal and associates an event code with the electrical signal. A self-configuring interface system is coupled to the hardware subsystem and the application services system and includes a configuration module coupled to retrieve interface configuration information from the signal database and the second software object.

Once again, the Moyne patent neither discloses nor suggests the recited signal database and self configuring interface system. For these reasons, the combination of elements recited in claim 12 is allowable and dependent claims 13-22 are allowable for at least the same reasons as claim 12 and due to the additional limitations added by each of these dependent claims.

Independent claim 29 recites a method for processing electrical signals in a system including a hardware subsystem that includes a set of components adapted to carry electrical signals, each electrical signal associated with one from the group of a sensing operation and a control operation. The method includes retrieving application service configuration information that associates a first set of software objects with at least one electrical signal and retrieving the first set of software objects in accordance with the application service configuration information. The method further includes retrieving interface configuration information that corresponds to the hardware subsystem and which associates a second set of software objects with at least one electrical signal and automatically generating a hardware interface for managing communication between the software object and the hardware subsystem in accordance with the interface configuration information, the interface including associating an event code with each electrical signal.

Moyne neither discloses nor suggests retrieving interface configuration information that corresponds to the hardware subsystem and which associates a second set of software objects with at least one electrical signal and automatically generates a hardware interface for managing communication between the software object and the hardware subsystem.
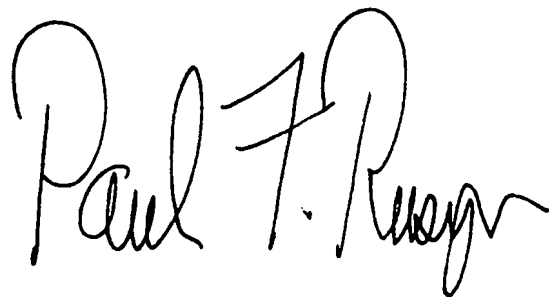
For these reasons, the combination of elements recited in claim 29 is allowable and dependent claims 30-37 are allowable for at least the same reasons as claim 29 and due to the additional limitations added by each of these dependent claims.

Once again, the Applicants' attorney notes the Examiner's provisional double-patenting rejection of the pending claims and will respond to this rejection in the appropriate manner at such time as allowable subject matter is agreed upon.

The present patent application is in condition for allowance. Favorable consideration and a Notice of Allowance are respectfully requested. Should the Examiner have any further questions about the application, Applicant respectfully requests the Examiner to contact the undersigned attorney at (425) 455-5575 to resolve the matter. If any need for any fee in addition to that paid with this response is found, for any reason or at any point during the prosecution of this application, kindly consider this a petition therefore and charge any necessary fees to Deposit Account 07-1897.

Respectfully submitted,

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